DOCUMENT RESUME

ED 467 476 EC 309 117

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TITLE	The Relationship of an Ecological Model of Career Development to Authentic Learning. Research Institute on Secondary Education Reform (RISER) for Youth with Disabilities Brief.
INSTITUTION	Wisconsin Center for Education Research, Madison.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
REPORT NO	RISER-2
PUB DATE	2000-00-00
NOTE	13p.
CONTRACT	H158J970001
AVAILABLE FROM	RISER, University of Madison-Wisconsin, 1025 West Johnson Street, Suite 461, Madison, WI 53706. For full text: http://www.wcer.wisc.edu/ riser/briefs.html.
PUB TYPE	Guides - Non-Classroom (055) -- Information Analyses (070)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Academic Achievement; Access to Education; Career Awareness; *Career Development; *Career Education; Career Planning; Context Effect; Critical Thinking; Decision Making; *Disabilities; Ecological Factors; Educational Assessment; Educational Change; *Educational Practices; Educational Principles; *Inclusive Schools; Interpersonal Competence; *Performance Factors; Secondary Education; Socialization; Special Education
IDENTIFIERS	*Authentic Learning

ABSTRACT

This brief discusses how the Research Institute on Secondary Education Reform (RISER) for Youth with Disabilities model, Schools of Authentic Inclusive Learning (SAIL), and career development constructs and processes intersect. The brief provides an overview of SAIL, of authentic and inclusive learning, and of career development theory, while exploring how features of authentic learning overlap with career development constructs and influence movement through the career development processes. An authentic model of career development is described, emphasizing the importance of the learner recognizing and understanding the constructs that apply to him/her, establishing processes of decision-making and self-determination, and utilizing applications such as work experience, social skills training, mentoring, and student empowerment. It concludes that SAIL in practice: (1) reflects consideration of student developmental levels by allowing students to access the curriculum at various entry points; (2) extends the development level of each student by conveying high expectations; (3) requires students to build decision-making skills; (4) seeks congruence between students and learning activities by considering value beyond school; (5) requires students to learn to interact more positively with each other; and (5) does not restrict access to knowledge or learning opportunities. (Contains 22 references.) (CR)

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Brief

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The Relationship of an Ecological Model of Career Development to Authentic Learning

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The mission of RISER (Research Institute on Secondary Education Reform *for Youth with Disabilities*) is to expand the current knowledge base related to practices and policies in secondary schools that enhance learning, achievement, and postschool outcomes for all students. Transition practices related to career development are an important aspect of secondary education reform (Hanley-Maxwell, Phelps, Braden, & Warren, 1999) as is the impact of authentic pedagogy. RISER seeks to identify secondary education reform practices that influence the educational successes of youth with disabilities. We are doing this by building from Newmann and Wehlage's (1995) framework (construction of knowledge, disciplined inquiry, and value beyond school) and modifying it to include a focus on inclusion. The resulting model, SAIL (Schools of Authentic Inclusive Learning), considers more closely how authentic pedagogy is utilized in learning environments inclusive of all students. [See Brief No. 1 (Hanley-Maxwell, Phelps, Braden, & Warren, 1999) for a more thorough discussion of authentic inclusive learning and schooling.]

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ACKNOWLEDGEMENTS

Thank you to Bruce King, Jennifer Schroeder, Jeff Braden, Debbie Stewart, and Mary Fish for their invaluable contributions to this Brief.

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The preparation of this paper was supported by a grant from the U.S. Department of Education, Office of Special Education and Rehabilitative Services, Office of Special Education Programs (#H158J970001) and by the Wisconsin Center for Education Research, School of Education, University of Wisconsin-Madison. Any opinions, findings, or conclusions are those of the authors and do not necessarily reflect the views of the supporting agencies.

INSTITUTE MISSION

The mission of the institute is to expand the current knowledge base related to practices and policies in secondary schools that enhance learning, achievement, and postschool outcomes for students with disabilities.

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CORE RESEARCH QUESTIONS

1. What are critical features of instruction, assessment, and support strategies that promote authentic understanding, and achievement (and performance) for all students?

2. How have changes in authentic inclusive learning and schooling practices affected the school and postschool outcomes (and their interaction) for students with disabilities (collectively and disaggregated) using frames of reference focused on equity, value added, and accountability?

3. How do schools accommodate district and state outcome assessments, and how do such accommodations affect the participation in, reporting of, and validity of assessment?

4. In schools evolving toward authentic and inclusive instruction, what are the roles and expectations of stakeholders as they engage in planning for secondary and postsecondary experiences?

5. What contextual factors are required to support and sustain the development of secondary-level learning environments that promote authentic understanding, achievement, and performances for all students?

6. What strategies are effective in providing both information and support to policymakers, school administrators, teachers, human service personnel, and the community so they utilize the findings to create and support learning environments that promote authentic understanding, achievement and performance for all students?

The purpose of this brief is to discuss how RISER's model, SAIL, and career development constructs and processes intersect. To fulfill this purpose, we provide overviews of our model of authentic and inclusive learning and career development theory, while exploring how features of authentic learning overlap with career development constructs and influence movement through the career development processes.

Authentic and Inclusive Learning

Newmann and Wehlage (1995) describe the construction of knowledge as building "on prior knowledge that others have produced," through guided practice. This building of knowledge, then, depends on a number of variables: higher order thinking, substantive conversations, social support, and academic engagement. Higher order thinking means that students can manipulate information or ideas. They do this by synthesizing, generalizing, explaining, hypothesizing, concluding, interpreting, and solving problems. A hallmark of tasks that require higher order thinking is that they have unpredictable outcomes. Higher order thinking is supported by substantive conversations in which students and teachers discuss subject matter, share ideas, and build collective understanding through dialogue. To be effective, the ideas or discussion cannot be controlled by one person. In fact, the social support supposedly available in authentic learning models encourages active control and engagement by all class members. Teachers convey high expectations for students. They encourage them to take risks in learning and master challenging content. They also clearly communicate that they believe all students can learn and that each class must develop mutual respect for all students' contributions. The success of these social supports can be measured by students' academic engagement. Students who feel supported and valued and who are intellectually challenged demonstrate academic engagement through attentiveness, enthusiasm, work completion, contributions to group tasks, and assistance to peers.

The second defining feature of authentic learning, as defined by Newmann and Wehlage (1995), is that of disciplined inquiry. Here, the construction of knowledge is integrated into a more complex cognitive framework. At this level, the learner uses his or her base of prior knowledge to solve problems and demonstrate newly acquired understanding in multiple ways (often through conversation and writing). Disciplined inquiry is based on a student's developing depth of knowledge in each of the disciplines. Depth of knowledge concerns the central ideas of a given topic or discipline. Students who develop systematic, integrated, or holistic understandings are beginning to develop depth of knowledge. To demonstrate depth of knowledge, students must discover relationships, construct explanations, draw conclusions, and solve problems within the disciplinary content.

Although Newmann and Wehlage (1995) focus on the use of elaborated written communication as evidence of construction of knowledge and disciplined inquiry, SAIL includes a variety of communication modalities (to allow for the use of adaptation and accommodation). Additionally, SAIL modifies the authentic instruction (AI) model by including nonschool settings as "formal" contexts for learning. The idea that learning tasks and outcomes can have value beyond school, and more specifically the assessment of knowledge acquisition, is critical to a model of authentic learning (Newmann & Wehlage, 1995). Emphasizing value beyond school allows teachers to build on student experiences. It also requires that teachers and students consider how school learning applies to real world or public problems. Thus, the learning becomes relevant to students, enhancing the personal value of that learning for each student.

Authentic learning outcomes emphasize tasks, products, and activities in classrooms (Newmann, Marks, & Gamoran, 1995; Newmann & Wehlage, 1995). SAIL adds outcomes such as graduation and attendance rates; performance on standardized tests, standards, and benchmarks; and performance on other assessments used to determine the effectiveness of school practices (e.g., district and proficiency exams). Furthermore, SAIL

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considers postschool outcomes related to career development: rate, level, and type of employment; continuing education; independent living and community functioning; and social-emotional functioning.

Finally, if the SAIL model is going to be useful, the model must address the roles of, and the benefits to, all educational stakeholders (e.g., students, parents, teachers, employers). Thus, we must consider the professional community and related, external educational supports. Research in this area examines teacher engagement and professional development, administrative support, the roles of school support staff, parent involvement, and community involvement. More specifically, it is important to understand the influence of stakeholder expectations and roles on secondary and postsecondary outcomes for all students. It is also crucial to identify the contextual factors (e.g., location of instruction for career development, variety of work experience options available to students) that support effective career development programs for all students.

Career Development in Relation to SAIL

The roots of career development theory can be traced back to Frank Parsons, who started the Vocational Bureau in 1908 (Brown & Brooks, 1990). Parsons suggested that there are three broad factors that must be taken into consideration when choosing a vocation. First, an individual must have a clear understanding of him/herself, aptitudes, abilities, interests, ambitions, resources, limitations and their causes. Second, the individual must possess knowledge of the requirements and conditions of success, advantages and disadvantages, compensation, opportunities, and prospects in differing lines of work. Last, the individual must consider the relationship among all of these factors (Parsons, 1909). Parson's work constituted the first conceptual framework for career decision-making.

Currently, there are many theories of career development (e.g., Super's Life Span, Life-Space Theory, Holland's Theory, Trait-Factor Theory, Miller-Tiedeman's Theory, Roe's Theory, Krumboltz's Social Learning Theory, Minnesota Theory of Work Adjustment, Hershenson's Theory of Work Adjustment) relating to a variety of disciplines, including counseling, psychology, and sociology (Szymanski & Hershenson, 1998). However, most of these theories are still at a relatively new stage of scientific development (Brown & Brooks, 1990). All the theories have scientific value, but it is difficult to connect them to actual practice (Szymanski, 1997). For this reason, Szymanski and colleagues developed a model that links the underlying constructs of career development theories and relates them to intervention and instruction throughout the lifespan of the individual (Szymanski & Hershenson, 1998).

The ecological model of career development proposed by Hershenson and Szymanski (1992) recognizes that career development is a complex process beginning at birth and continuing throughout the life of the individual (Hershenson & Szymanski, 1992; Turner & Szymanski, 1990). It is considered "ecological" (as conceived by Lewin, 1936, and Bronfenbrenner, 1988) because it focuses on the individual as well as the contexts and environments of that person's life. "Career development is determined by the dynamic interaction of individual, contextual, mediating, environmental, and outcome constructs with congruence, decision-making, developmental, socialization, allocation, and chance processes" (Szymanski, 1997, p. 128). Thus, an ecological model is especially relevant to career planning because it facilitates the integration of information from a variety of different sources and perspectives (Szymanski, Dunn, & Parker, 1989).

In the next section of this paper, we provide an overview of the constructs and processes of career development, along with an integrated analysis (in italics) of the overlapping features of these variables with the SAIL model. Specifically, we will discuss how career development constructs and processes are reflected in the construction of knowledge and in disciplined inquiry.

Constructs

In career development literature, the term constructs is used to define variables that combine to impact someone or something in relation to processes. Kerlinger (1986) defines them as concepts used to explain something. Constructs may be facts (e.g., socioeconomic status, race, and gender) or they may be beliefs (e.g., religious beliefs and racial identity). They include the categories of individual, contextual, meditating, environmental, and outcome constructs (Szymanski et al., 1997). The constructs for each person will most certainly impact the sorts of prior knowledge that s/he has, as well as opportunities for disciplined inquiry in an authentic and inclusive learning model.

Individual. Individual constructs are attributes directly connected to the person (Szymanski & Hershenson, 1998). They are part of most career development theories and include gender, race (Fitzgerald & Betz, as cited in Szymanski & Hershenson), physical abilities, mental abilities, and interests (Lofquist & Dawis, as cited in Szymanski & Hershenson). The career development needs of any group of individuals, including people with disabilities, members of various racial, ethnic, and cultural groups are diverse simply because populations are diverse. Therefore, when planning career development strategies it is crucial to keep in mind that individuals have widely different life experiences, abilities, and interests. Once these individual attributes are considered, the constructs and instruments of various theories can be used to help consumers understand their individual needs (Szymanski & Hershenson, 1998).

Considered within a framework of authentic learning, the constructs of the individual are critical toward construction of knowledge, as the learner must not only organize information (that may be specific to him or herself), but also consider alternative solutions, strategies, perspectives, or points of view (which requires an awareness of the individuality of self and others). For example, an individual born with severe physical disabilities may have experienced few work-related experiences in childhood (e.g., household chores, part-time jobs). This individual might need to have specific experiences (e.g., a work experience in a school setting) and disciplined inquiry activities (e.g., studying about childhood chores and work simulation experiences) developed to ameliorate the effects of these missing experiences.

Contextual. Contextual constructs relate to situations in or under which individuals live or have lived. They include socioeconomic status, family, education, nonnormative influences (e.g., floods, war), and legislation (e.g., Americans with Disabilities Act, IDEA; Szymanski, Hershenson, Enright, & Ettinger, 1997). According to Szymanski and Hershenson (1998) these contexts can pose risk factors to career development. A full range of contexts exists for ALL individuals. However, it cannot be assumed that any one risk factor is of importance to any one individual simply because that individual is a member of a certain group. Instead, contextual constructs, like individual constructs should introduce another dimension of diversity (Szymanski & Hershenson, 1998).

In terms of authentic learning pedagogy, the contextual constructs will have a bearing on the construction of knowledge for the individual, as well as on planning for disciplined inquiry. For instance, an individual growing up in a single-parent home of low socioeconomic status will have a very different set of experiences from which to draw upon than an individual growing up in a dual-parent home of middle-class income. These differing experiences can be utilized by educators to draw upon students' strengths and differences in setting up disciplined inquiries (e.g., pairing students with differing backgrounds for study and discussion).

Mediating. Mediating constructs are individual, cultural, or societal beliefs that affect the interaction of individuals with their environments (Szymanski, Hershenson, Enright, & Ettinger, 1997). Mediating constructs can include work personality, religious beliefs, and racial identity (Szymanski & Hershenson, 1998). Discrimination and castification are societal

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mediating constructs (Szymanski & Trueba, 1994). Mediating constructs are also important to consider when working with persons with disabilities because belief systems can affect an individual's career development (Szymanski & Hershenson, 1998). In many respects, disability is a social construct, and negative attitudes can be as important to shaping an individual's career development as the disability itself (Curnow, 1989).

In the SAIL framework these constructs are critical to consider in terms of their impact on how a student constructs knowledge. For example, the fact that a student has faced much discrimination due to the color of his/her skin, gender, presence of a disability, or the socioeconomic status of his/her family will likely impact his/her perspective or point of view in addressing a concept, problem, or issue. Again, differing perspectives can be effectively utilized by educators to draw upon student strengths and experiences in providing challenging and stimulating learning experiences.

Environmental. Environmental constructs may include one's organizational (i.e., work or school) culture (Szymanski & Hershenson, 1998) as well as any task requirements and reinforcement systems that are applied in a certain environment (Dawis, 1994). Social and monetary reinforcements are examples of environmental constructs that are important to all individuals. Many individuals with disabilities, however, have taken a variety of low status and low paying jobs (Verre, 1995). Furthermore, not fitting in with the culture of the work environment can be as detrimental as lacking job skills (Szymanski & Hershenson, 1998). Just as with contextual constructs, the environmental constructs related to an individual learner may impact the knowledge/experience base with which he or she enters school as well as his/her perspectives and approaches to varied situations. *Education from the SAIL perspective might be demonstrated in alteration of the school culture (i.e., physical setting, task demands, and outcome expectations). The perspective might also be demonstrated by changes in outcome constructs, as discussed below.*

Outcome. Outcome constructs describe the behaviors that result from the interaction of the other groups of constructs (Szymanski, Hershenson, Enright, & Ettinger, 1997). Job satisfaction (Lofquist & Dawis, as cited in Szymanski & Hershenson, 1998), job stress (Landy, as cited in Szymanski & Hershenson), occupational attainment (Rothman, as cited in Szymanski & Hershenson), organizational productivity, and competitiveness (Hall as cited in Szymanski & Hershenson) are included. According to Szymanski and Hershenson, most career development theories include some type of outcome construct. Job stress, for example, is a very important area of career planning for students with disabilities to consider. Job stress is particularly high in work that is monotonous and work in which individuals have little control (Landy as cited in Szymanski and Hershenson). Verre (1995) has found that such work is exactly the kind in which many persons with disabilities are often employed.

Career development in the SAIL model might result in dramatically different outcomes for learners in terms of their own expectations for success, attitudes toward school and work, and postschool employment outcomes. Indeed, the application of construction of knowledge, disciplined inquiry, and value beyond school to career development theory and practice could result in career development programs that would encourage all learners to seek intellectually challenging careers, many of which have not historically been highlighted in such programs (Wehman, 1992).

Processes

Processes specific to career development are crucial to the construction of knowledge in an authentic model as well. The teacher or other service provider may find a need for increased or enhanced opportunities for processes to occur. *The SAIL model provides each student with the skills needed to proceed through these processes and enhances ALL students' access to challenging learning experiences.* The following processes are explored in light of an authentic inclusive learning framework below:

developmental, congruence, decision-making, socialization, and allocation.

Developmental. For most individuals both play and work are part of the developmental process. Depending on the home environment, children with disabilities may have limited opportunities to learn critical social skills through play or to learn responsibility through chores. Interests are also learned through experiences (Mitchell & Krumboltz, 1990). Adolescents or young adults with disabilities may have developed limited interests due to a lack of early experiences or a lack of exposure, over time, to a variety of experiences. Service providers may need to plan enrichment activities so students gain experiences necessary for informed career planning.

With the SAIL model, the unique developmental process history for each student may be capitalized on by focusing on higher order thinking, substantive conversations, social support, and academic engagement rather than specific methodologies or content. Students are thus challenged to develop their knowledge bases in ways that are meaningful to them. For example, if authentic assessment suggests that a learner has had few developmental experiences to support the development of work personality (i.e., individual traits and behaviors that reflect the kind of worker an individual may be), the service provider may choose to engage the learner in experiences that will facilitate growth through disciplined inquiry in these areas.

Congruence. In the process of congruence, the service provider considers individual, contextual, mediating, and environmental constructs in finding the best match between a person and a job. *Congruence among students, their learning environments, and the relevant mediators is an essential feature of authentic learning. If optimal congruence is not achieved, an authentic outcome is not likely–as the individual will be limited in terms of applying prior knowledge in new and useful ways. Because the SAIL model does not focus on specific teaching practices or methodologies, students can acquire knowledge and generate products in ways that are best suited to their strengths and needs. Likewise, in a truly authentic learning environment, the learner is able to go beyond mere reproduction of knowledge to generate varied responses or alternatives to problems. Thus, the student is learning skills that will facilitate his or her congruence within many environments.*

Decision-making. The process of decision-making is one that also pivots around the ability of the individual to identify, generate, and choose from more than one response *(an important feature of the construction of knowledge in an authentic learning framework).* Decision-making processes are of particular concern in career planning for people with disabilities as well as for minorities (Szymanski & Hershenson, 1998). Due to limited experiences, people with disabilities may need assistance in order to participate fully in career planning. For the majority of the U.S. population, independence is a valued goal; therefore independent approaches to career decision-making are the norm (Szymanski & Hershenson, 1998). For many minority cultures, however, interdependence, community membership, and family contributions are more important goals; therefore collectivist approaches to decision-making are valued (Betz & Fitzgerald, 1995). Students' cultural preferences in career decision-making can only occur if students and their families are considered in the planning process. *As the process of decision-making is one that also pivots around the ability of the individual to identify, generate, and choose from more than one response, it is directly applicable to learning in the SAIL model.*

Socialization. Socialization is the process that shapes behavior and the way that life roles are learned and put into place (Szymanski & Hershenson, 1998). According to Rothman (1987), parental occupations and social class (e.g., contextual constructs) as well as race, gender, and ethnicity (e.g., individual constructs) influence socialization. Disability can also affect socialization. For example, teachers and service providers who expect students with disabilities to behave inappropriately, may actually respond to students in ways that encourage inappropriate

behavior. Children with disabilities can be socialized toward success or socialized toward inferior work or life roles. It is important for teachers and other service providers to be aware of the importance of the socialization process and work to empower students rather than reinforce negative roles. *If a student has been constructing knowledge in the area of social skills, the disciplined inquiry may build on that by engaging the student in many, varied social situations that challenge the student to solve social problems via dialogue and interaction with others. In schools utilizing authentic pedagogy, students are encouraged and supported to socialize with one another as well as with others in the communities in which they live. This social action is believed to aid them in disciplined inquiry and in realizing the value beyond school of what they are learning.*

Allocation. Allocation is the process by which teachers and other service providers allow or restrict access to critical opportunities (Rothman, 1987). For students with disabilities, the allocation process can often restrict career development. In fact, special education placement itself can have disempowering consequences for students with disabilities when students are isolated (Grove, 1976; McKnight, 1977; Szymanski & Trueba, 1994). Students with emotional disabilities, in particular, are often excluded from general education classrooms and work opportunities (McLeskey, Henry, & Hodges, 1999). This exclusion often leads to restricted opportunities for students to experience varied social and work situations. Teachers and other service providers must guard against compounding these barriers as they seek to help students by periodically assessing their role as gatekeeper (Fetterman, Kaftarian, & Wandersman, 1996). *The SAIL framework may provide the teacher or service provider with an entirely new perspective on how decisions are made for and with students with disabilities regarding career development. Specifically, the active nature of learning in an authentic learning model may encourage teachers to support students in the use of self-determination and self-advocacy skills.*

Summary

The constructs and processes related to career development planning and implementation are many and varied. Not only do identified constructs provide much of the foundation for career development theory, they also act as signposts for persons involved in career development. The constructs regarding the individual, the context, and the environment, for example, will impact the sorts of prior knowledge that the student has, as well as the opportunities for disciplined inquiry in an authentic and inclusive learning model. Likewise, the processes of career development are promoted by high expectations along with accompanying social supports to push students to maximally develop. By starting with their interests and skills and task relevance, students are encouraged to match themselves and their needs to the requirements of the learning environment and learning in the world beyond school. This congruence is reflected in the degree of academic engagement and participation in substantive conversations. It is supported by the social supports found within authentic classrooms, building the capacity to learn through emphasis on the development of higher order thinking, and providing access to essential knowledge by requiring depth of knowledge in the disciplines reflected in curricular content. Requiring higher order thinking and using substantive conversations to negotiate new meanings also lead to the development of decision-making skills, and better socialization for each student.

Authentic pedagogy capitalizes on students' individuality by starting with their characteristics (including their strengths and interests) and experiences to build knowledge. Knowledge within the academic disciplines is integrated into learning experiences that build on the contextual variables of these students' lives. This integration is achieved by focusing on the value of the learning beyond the school. Learning in the context of SAIL is mediated by high expectations (on the part of the teacher), strong social support for investigation and conceptualization, and engagement in substantive communication with peers and

teachers to develop shared meanings. Each of these mediators is reflected in the environments of authentic classrooms. In these classrooms, students are encouraged to explore, evaluate, synthesize, and generalize learning individually and collectively. Tasks reflect emphasis on these higher order thinking processes and allow for negotiated meaning and production of products that begin with and extend student strengths and interests.

Finally, although career development outcomes appear to emphasize life experiences (e.g., satisfaction, stress, attainment, productivity, competitiveness) and authentic learning outcomes appear to emphasize academic processes (i.e., academic engagement, higher order thinking, and depth of knowledge), both are concerned with some similar outcomes. These outcomes, described in career development terms, are attainment (higher order thinking, depth of knowledge), productivity, and satisfaction (academic engagement). It is clear that education within the SAIL model changes the context and the mediating and environmental constructs as well as the specific direction of some outcomes for students.

Conclusion

A truly authentic model of career development will emphasize the importance of the learner recognizing and understanding the constructs that apply to him/her, establish processes of decision-making and self-determination, and utilize applications such as work experience, social skills training, mentoring, and student empowerment. A forthcoming brief on effective instructional practices and their relationship to authentic learning will explore these and other applications.

In summary, SAIL in practice

- Reflects consideration of student developmental levels by allowing students to access the curriculum at various entry points
- Extends the development level of each student by conveying high expectations
- Requires students to build decision-making skills
- Seeks congruence between students and learning activities by considering value beyond school
- Requires students to learn to interact more positively with each other (advances socialization) by requiring students to negotiate meanings through substantive conversations and through the provision of social supports
- Does not restrict access to knowledge or learning opportunities (enhances allocation)

While the content of authentic learning is typically more academically focused than what is usually associated with career development, it is clear that the underlying theories of both have consistencies supporting associated practices. Perhaps when all students are involved in truly authentic and inclusive high school environments we will find that instruction specific to career development will no longer be necessary.

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